XVIII. *A Letter from* Edward Wilmot, *M. D. F. R. S. and one of* His Majeſty's *Phyſicians*, &c. *to the* Preſident *of the* Royal Society, *ſerving to incloſe the two following Papers:*

1. *Of the extraordinary Effects of* Muſk *in Convulſive Diſorders; by* J. Wall, *M.D.*
2. *Of the Effects of the* Tunquineſe *Medicine; by* Alex. Reid, *Eſquire.*

*SIR,*

*Read* Dec. 20. 1744. INcloſed you have ſome Obſervations upon the Virtues of Muſk, from Dr. *Wall*, an eminent Phyſician at *Worceſter*. I have likewiſe ſent you an Account, I have procured from my ingenious Friend Mr. *Reid*, of the Event of ſome Experiments made by him with the ſame Drug; which, being communicated to his Friends, gave Occaſion, probably, to the liberal Uſe of Muſk, of late Years in Practice here. As both theſe Accounts well merit the Attention of the Public, I could wiſh they might be both printed in the ſame Tranſaction. I am, with great Reſpect,

*SIR,*

*Jermyn-Street*, Nov. 22. 1744.

*Your moſt obedient, moſt humble Servant,*

E. Wilmot.

## I.

## *Of the extraordinary Effects of* Musk *in Convulſive Diſorders*; *by* J. Wall, *M.D.*

IT ſeems highly probable, that the Virtues of ſeveral Articles in the *Materia Medica* are not hitherto fully diſcovered, or well aſcertained, from Want of due Attention to their proper Doſes. The Succeſs of ſome Medicines, we know, depends upon This; *viz.* That a determinate Quantity be given within a certain Space of Time; ſo that if Leſs than that be uſed, it ſeldom proves of Uſe. Of this the *Bark* is a well known Inſtance; and the ingenious Dr. *Hales* has obſerved the ſame of Soap (*a*). It is not improbable, that the like might be found to hold good in many other Medicines, were their Operations carefully enough attended to: A Diſcovery this, much to be wiſh'd for, as it would probably furniſh us with a new Set of Specifics; and thereby enable us to cure ſeveral Diſtempers, which at preſent, baffle our Skill. Of the Reaſonableneſs of which Conjecture the Subject of this Paper ſeems no contemptible Inſtance.

Musk, and other Perfumes of the ſame Tribe, have been long celebrated as excellent Antiſpaſmodics; but, as they are uſually ordered in very ſmall Quantities, they are ſeldom found to anſwer the Expectations of the Preſcriber. The Miſtake ſeems to have taken its Riſe from hence; That moſt Perſons imagining

(*a*) Account of ſome Experiments on Mrs. *Stephens*'s Medicines.

gining the medicinal Virtues of theſe Drugs to conſiſt in their Fragrancy; and finding that a very ſmall Quantity in Subſtance would communicate its Smell to a very large Vehicle; in their Preſcriptions therefore they have uſually order'd ſo much only as was requiſite to give the whole Compoſition an agreeable Perfume. But the Caſe is widely different; for as a very ſmall Quantity of Musk, Civet, *&c.* when properly open'd and diluted, will yield a much greater, as well as a more agreeable Fragrancy, than a large Parcel without ſuch Preparation: So the Smell of the Perfume is often found to be of Diſſervice, where the Subſtance, inwardly taken, produces the happieſt Effects; as *Etmuller* and others have obſerved.

Moſt of the Writers on Pharmacy ſeem extremely cautious about the Uſe of Musk; and therefore direct it only in exceeding ſmall Quantities. In very few of their Compoſitions does the Doſe of it reach ſo high as a Grain; and the higheſt that I meet with is not above five Grains (*a*). But the *Chineſe*, who are much better acquainted with the Nature and Uſes of

(*a*) In *Fuller's Julap. Moſchat. & Miſtur. Moſchat.* the Quantity for a Doſe is not half a Grain: In the *Pill. Solenandri & Syncopales* only two Grains. *Bates*, in all the Compoſitions where Musk enters, orders it only in the Quantity of half a Grain to a Doſe; excepting only in the *Julap. Hyſteric. Moſchat.* He gives it to the Quantity of five Grains. In this Quantity *Etmuller* once orders it in the like Caſe. In the College, *Auguſtan*, and other Diſpenſatories, the Quantity of Musk in the great Compoſitions, ſuch as the *Conf. Alkermes Elect. de Saſſafras*; *Conf. de Hyacinth. Conf. liberans*; *Spec. lætificans*; *Diarrhodon Abbat.*; *Diambr. c. od.* &c. is very trifling; in very

of this excellent Drug, order it in much larger Quantities; the uſual Doſe amongſt them being the tenth Part of an Ounce (*b*). In the Powder mention'd by Dr. *James*, at the End of his Treatiſe on the Cure of the Bite of a mad Dog, which is ſaid to have been brought from *China*, the Quantity of Musk in each Doſe is ſixteen Grains, and two of theſe are order'd to be taken at two Hours Diſtance.

The Preſcription laſt mentioned had, to my own Knowledge, been given to ſeveral Perſons with great Succeſs: Two in particular; the one an Acquaintance of mine, a Student at *Oxford*; the other (*c*) a Servant-Maid to Mr. *Rogers*, an Innkeeper in this City. In

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very few of them amounting to half a Grain in a Doſe. *Schroder* makes the higheſt Doſe of Musk four or five Grains. *Lemery* but four Grains *Hermannus* gives five Grains; but his Commentator *Boecler* gives great Caution about its Uſe: 'Circa *Moſchi Uſum* (ſays 'he) *caute procedere debemus*; *præſertim in Mulieribus. Sanguinem* 'impetuoſum admodum reddit, & *Hæmorrhagias Narium facile excita*t.'——And *Juncker*, *Conſp. Therapiæ general.* TAB. 18. ſeems not a jot leſs fearful of it. For, after he has told us, that it is wonderfully extoll'd in nervous Diſorders, and many others, he adds —— 'Sed notandum eſt internum *Moſchi* Uſum, *niſi* parciſſimus *ſit*, *ſæpe* 'noxias *Humorum Commotiones inferre*; *cæterum non adeo probatum*, 'nedum tam gravibus pleriſque Malis ſuperandis parem reperiri,' &c. &c.

(*b*) *Vide* Du Halde on the Phyſic of the *Chineſe*.

(*c*) This Girl had been bitten about a Year before the Symptoms came on; and had, immediately after the Bite, taken the uſual Precautions of being dipp'd in ſalt Water, &c. She continued well for the Interval; but, about twelve Months after the Accident, ſhe began to be dull, and to have an extreme Dread of the Conſequences of the Bite. The Part where ſhe was bitten (which was the lower Part of the Cheek) began to give her great Pain, attended with frequent convulſive Catching therein: At laſt the Wound broke out, and gleeted a thin Ichor, with all the Symptoms mentioned above.

In both theſe the Symptoms of the Bite were come on; *viz.* an ichorous Gleeting from the Wound, with extreme Pain in the Part; frequent Convulſions, and *Subſultus Tendinum*; extreme Anxiety, Horror, and Want of Sleep. After the ſecond Doſe of the Powders, each of them fell into a gentle Sleep, and broke out into an univerſal breathing Swear, both which continued for near eight-and-forty Hours (except only whilſt they were taking ſome Refreſhment); after which time they awoke perfectly well; their Sores being healed, and they chearful, and free from all Complaints. In all the Perſons (which are ſeveral) to whom I gave theſe Powders, I conſtantly found them to have the ſame Effects; procuring Eaſe, quiet Sleep, and a copious *Diaphoreſis*.

Theſe ſurpriſing and ſudden Effects I could not but attribute, in a great meaſure, to the Musk (becauſe we well know, that the Cinnabar alone never produces the like): And, from the Safety and great Succeſs with which this large Quantity had been taken, I ſaw little Reaſon to be ſo ſcrupulous or fearful about its Uſe, as moſt Authors appear to have been. On the contrary, I was rather induced to think, that it had hitherto been uſually under-doſed; and that very great Advantages might be expected from it, if given in an increaſed Quantity. Nor was it long before I had an Opportunity of trying it in another Caſe, where the Succeſs juſtified my Conjectures, and more than anſwered my utmoſt Expectations.

Being called to a Patient at *Bewdley*, a Market-Town in this County, I was deſired by Mr. *Malpas*, a very ingenious Apothecary of that Place, to viſit a poor Man there, who had lain ſome time ill. I found

I found him afflicted with a terrible Hiccup, which had continued on him four or five Days without a Minute's Intermiſſion; ſo that he had had no Sleep all this time. His Pulſe was exceedidg quick, ſmall, and unequal: The Blood, which had been ſeveral times, and in large Quantities, taken from him before I ſaw him, was cover'd with a prodigiouſly thick buff Coat; his Urine limpid; his Face of a leaden Hue, and ghaſtly: his Extremities cold, and cover'd with a clammy Sweat; and whenever the Hiccup return'd, which it did at almoſt every Inſpiration, the *Hypochondria* were ſtrongly convuls'd and drawn upwards. —— Recollecting that *Fuller* recommends his *Julap. Moſchat.* in the like Caſes (*d*), but thinking the Quantity of Musk, therein preſcribed, too ſmall to be depended on in one ſo deſperate (more eſpecially having before ſeen the ſurpriſing Succeſs of a large Doſe), I order'd him a Bolus compoſed of Musk, Nitre, Crabs-eyes, of each twelve Grains, Camphire one Grain, Mithridate a ſufficient Quantity; to be taken immediately, and repeated in eight Hours, taking a Spoonful or two of *Fuller*'s Julap, occaſionally, once in two or three Hours. He had no ſooner ſwallowed the Bolus, which I ſtaid to ſee him take, than his Hiccup

(*d*) *In Febribus mali Moris, quæ Vapores deleteros ad Stomachum ſuffundunt; Spirituſque labantes irritant; in Conſuſiones & Spaſmos adigunt; & Singultum inde excitant; nondum hactenus præſtantius uſui Remedium: aliquando enim divinitus ſuccurrit, & Singultum ſuperat. Ut ingenue tamen fatear, tam funeſtum hoc ſæpe notavi eſſe Symptoma, ut neque hoc neque aliud quodcunque vel excogitare vel invenire, mihi adhuc datum ſit, quod Illi par eſſet; ſed totis licet Viribus certavi, Fatis tamen fruſtra obniſus ſum.*

*Fuller.* Pharmacop. extemporan. ſub Tit. *Julap Moſchat.*

Hiccup ſtopp'd: In leſs than an Hour, he broke out into a general breathing Sweat, and fell into a quiet Sleep, which laſted ſix or ſeven Hours, when he awaked much refreſh'd.---The Hiccup never return'd again, but the Man ſoon recovered.

The next Perſon to whom I gave this Medicine was a Gentleman, who had been ill eleven or twelve Days of a petechial Fever. I found him delirious, with convulſive Catchings in the Tendons; and an Hiccup very frequent, and ſo loud, that I very plainly heard it at the Bottom of the Stairs, before I went into his Chamber: His Pulſe was, at the ſame time, very weak, but exceedingly quick. I immediately order'd him a Bolus with ten Grains of Musk mixed with Camphire (*e*), as in the former Caſe; and ſtay'd an Hour by him to ſee the Effect of it.——In leſs than two Minutes the Hiccup left him; in about half an Hour his Skin grew moiſt, and ſoon after he fell into a ſound Sleep. The Hiccup, as I was informed, returned again the next Morning, though with much leſs Violence; but both that, and the *Subſultus Tendinum* went off intirely, upon a Repetition of the Bolus,

(*e*) I added the Camphire mixed with Nitre, on account of the Character given of it by *Hoffmann*; but, upon further Experience, I found the Musk ſucceed as well without it. *Hoffmann*, I find, touches upon the Virtues of this Drug, which he conſiders as a Sedative: --- '*Sedantia hæc variis modis efficaciam ſuam perficiunt.*----- *Quædam* '*Antiſpaſmodica Sulphure quodam tenui vaporoſo ex Regno animali*; '*adeoque magis amico effectum perſequuntur ut Lumbrici terreſtres*, '&c. *nec non* Moſchus *&* Zibethum, *quæ in convulſivis ac epilepti-* 'cis *Motibus*, *ac in ipſa etiam chronica Epilepſia*, *inſigni cum Fructu* 'uſurpantur.'

Med. rational. Syſtemat. *Tom.* 3. *Sect.* 2. *Chap.* 7.

Bolus, and never return'd again; ſo that in a few Days he was able to go out of his Chambers.

In theſe Perſons the *Hiccup* was the Symptom that induced me to give the Musk; but, obſerving that this Convulſion, which, every one knows, affords but a melancholy Prognoſtic, was ſo ſpeedily removed by it; and that, in the laſt-mentioned, the *Subſaltus Tendinum* alſo gave Way to it; I have ſince order'd it in many other convulſive Caſes, and always with Succeſs. I ſhall mention two or three.—

About two Months ago, I was called to a Daughter of one Mr. *Carter*, Haberdaſher of Small-Wares in *Bewdley*. She was about ſeven Years of Age, and had been ill of a Fever (proceeding, as it was imagined from Worms) for about four Weeks. At the time I ſaw her, ſhe had been ſenſeleſs and ſpeechleſs for ſeveral Days; as I remember, not leſs than ten or twelve. A great Part of this Time ſhe had had ſtrong Convulſions, and could ſcarce ſwallow any thing at all; ſo that they every Hour expected her Death. Mr. *M*——, the Apothecary, told me, That, the Day before I ſaw her, ſhe had had a general *Tetanus*, her Joints being quite inflexible: When I ſaw her, every Muſcle was, by turns, convuls'd; her Head, in particular, was ſo forcibly drawn backwards, as, at different times, to raiſe her Body from off the Bed.—— As ſhe ſwallow'd with ſo much Difficulty, there was little Hope of giving her any Medicine by the Mouth; I therefore ordered twelve Grains of Musk, ground with Oil and Sugar to be mix'd with ſome thin Broth, and thrown up by way of Clyſter; and this to be repeated at two or three Hours Diſtance. In an Hour's time after the firſt Clyſter, the Convulſions, as I was inform'd, manifeſtly abated,

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and the ſecond intirely removed them. After this the Child gradually recovered its Underſtanding and Speech, and is now perfectly well.

About the ſame Time, I was called to a young Girl in this Town, about ten Years of Age, who had been ſeized with Convulſions about three Days before. At the Coming on of the Fit, ſhe uſually complain'd of a violent Pain in her Belly and Loins, which, ſhe ſaid, ſeem'd to draw her Bowels on an Heap: After this, ſhe ſoon loſt her Senſes, and was variouſly convuls'd; not much unlike one in an epileptic Fit. When the Violence of the Paroxyſm began to abate, and ſhe a little recovered her Senſes, ſhe likened the Pain to a Sword running through her. From the firſt Seizure, ſhe had ſeldom had an Hour's Interval betwixt the Fits.——I order'd twelve Grains of Muſk to be given her in a Clyſter, which was thrown up in the Decline of the Paroxyſm: Upon this ſhe inſtantly recover'd, and has never been ſo affected ſince; proper Care being taken to remove the *Stimulus* which occaſioned theſe Spaſms.

Mr. *Malpas*, whom I have mentioned already, tells me, That, ſince he has ſeen the good Effects of Muſk, he has twice tried it himſelf with great Succeſs. —— A Gentleman's Groom, having been kick'd by a Horſe on the Pit of the Stomach, was thereby immediately thrown into a violent Hiccup, with great Difficulty of Breathing, and inceſſant Reachings to vomit, the Stomach and Diaphragm being greatly convulſed. After Bleeding, *&c.* the Muſk removed the Hiccups, *&c.* immediately.——The other Caſe is more remarkable: A Farmer's Wife in the Country, as ſhe ſat at Table, was ſuddenly ſeiz'd with an Inabi-

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lity of ſwallowing. She ſaid, When the Meat or Drink came to a certain Part of the Gullet, ſhe was immediately affected with the Senſation of a tight Cord round her Neck, which ſeemed almoſt to ſtrangle her, ſo that ſhe was obliged to throw her Food back again. —— As this was manifeſtly a Spaſm of the *Oeſophagus* and Muſcles of Deglutition, he order'd her our Antiſpaſmodic, mixing two Scruples of Musk (as I remember) in a ſix-ounce Phial, and order'd her to take this by Spoonsful. Several of the firſt Doſes ſhe rejected, as ſhe did other Liquids; but, perceiving that the Diſorder gradually abated upon the Uſe of this Medicine, ſhe perſever'd in it, and, at laſt, could ſwallow freely and eaſily as before. This ſingle Bottle completed the Cure.

I could cite many more Inſtances to the ſame Purpoſe, both from my own Practice, and that of the other Phyſicians of this Place, to whom I communicated my Obſervations. One I cannot omit, which my very learned and ingenious Friend Dr. *Mackenzie* has furniſh'd me with. I beg Leave to tranſcribe his own Words:-- - ‘ Musk, (ſays he) given, according ‘ to your Method, in a proper Doſe, that is, from ſix ‘ Grains to ſixteen, is the beſt antiſpaſmodic Medi- ‘ cine that I know. The Efficacy of it in Hiccups, ‘ ariſing from any nervous Diſorder, (and not from ‘ any Wound or Inflammation) is ſurpriſingly great ‘ and ſudden. Of many Inſtances I have ſeen, I ſhall ‘ only mention one:

‘ A young Lady, reduced to an extreme Degree ‘ of Weakneſs, by a ſlow waſting Fever, attended ‘ with a great Diſorder and Lowneſs of Spirits, had, ‘ when I firſt ſaw her, the moſt frequent Hiccup I ‘ ever

'ever heard; it returning with every Inſpiration. I 'order'd her a Bolus with ſix Grains of Muſk, and 'the Apothecary ſtay'd to give it. The Moment ſhe 'had ſwallowed it, ſhe ſcreamed out ſo violently, 'that ſhe alarmed the whole Houſe, and raiſed ſuch 'an Outcry, that Mr. *Holyoake*, of *Henly* in *War-'wickſhire*, the Apothecary, with all his good Senſe, 'found it difficult to compoſe the Tumult. From 'ſcreaming ſhe fell into a laughing Fit: Soon after 'ſhe grew calm, and fell into a Sleep, which laſted 'ſeveral Hours. The Hiccup ceaſed from the Mo-'ment ſhe took the Bolus: It returned ſome Weeks 'after from taking Cold, but was quickly removed 'by the ſame Medicine.'

Thoſe who are acquainted with the learned *Hoffmann*'s Writings, well know of what extenſive Uſe Antiſpaſmodics are; and the Inſtances here given, are, as I imagine, ſufficient to prove, that *Muſk* is a Medicine of *uncommon Efficacy* in convulſive Diſorders. I can boldly affirm, that, when given in its due Doſe, it has never once fail'd my Expectations. I have ſometimes indeed been obliged to repeat the Doſes three or four times; but it has always anſwer'd at laſt, in all Caſes where I had Reaſon to expect it ſhould. ------It is not be imagined, that where the Spaſms proceed from any *Stimulus* fixed in a certain Part, that *This* or any other Medicine can abſolutely cure the Convulſion, if the Cauſe be not removed (*f*); yet

(*f*) The celebrated *Hoffmann*'s Rules, regarding the Uſe of Specifics, are moſt certainly juſt, and muſt neceſſarily hold in reſpect to *This*, as well as any other: '*Monendum quod quum hæc ipſa* (ſc. '*ſpecifica*

yet I think it appears, from ſome of the foregoing Hiſtories, that, even without That, it may greatly alleviate them, and gain Time for other Remedies.

Under the Quantity of ſix Grains I never found much Effect from it; but it ſucceeds beſt, when given to ten, and upwards. In the larger Quantities, it never fails to produce a mild *Diaphoreſis*, without at all heating, or giving any Uneaſineſs to the Patient (how much ſoever it has been decried by ſome Writers on theſe Accounts): On the contrary, it raiſes his Spirits, and eaſes his Pains. After the Sweat breaks out, he commonly falls into a ſweet refreſhing Sleep. Some Perſons I have given it to have obſerved, that their Sweat is affected with the Scent of

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' *ſpecifica Remedia*) *neutiquam Viribus polleant abſolutis, ſed relati-*
' *vis, & certis Conditionibus ac Circumſtantiis limitatis, in eorum Uſu*
' *harum imprimis exquiſita habenda ſit Ratio, quo ſperatus reſpondeat*
' *Effectus. Deinceps ſingularis Efficaciæ hæc quidem recte uſurpata*
' *ſunt Remedia; ſed nihil certe juvant, niſi prius Corpus fuerit præ-*
' *paratum; & Obſtacula, quæ Virtutem infringere aut impedire poſſunt,*
' *remota. Hinc quando Sanguis in Venis redundat, & primæ Viæ Sen-*
' *tina Sordium obſeſſæ, neceſſe eſt, ut Sanguis prius ſubtrahatur, &*
' *prima Corporis Regio a crudorum, bilioſorum, recrementitiorum Suc-*
' *corum Saburra repurgetur ac depleatur. ** Denique in Specificorum Uſu*
' *accommodo ſervanda Methodus; ita quidem, ut Artifex non ſolum*
' *Tempus, Doſin, ac Regimen teneat; ſed etiam quamdiu iiſdem inſiſten-*
' *dum, & quæ Victus ac Vivendi Ratio, ſimul injungenda, exacte calleat.*
' *Etenim medendi Methodus ſpecialiſſima, quæ unice in Medentis Pru-*
' *dentia, Judicio, diligenti Attentione, Meditatione, & Obſervatione*
' *Naturæ Ægrotantis conſiſtit, tanti ad ipſum Effectum eſt Momenti,*
' *ut ipſis Specificis & appropriatis ſolis longe ſit anteponenda; & ſine*
' *ea, Remedia quantumvis egregia, alienæ & infructuoſæ ſint Opera-*
' *tionis; nec quicquam ſolidi in Arte præſtare poſſint. Et hæc qui-*
' *cunque ſtudioſe obſervat omnia, is certe deſiderato potietur Fine, quan-*
' *tum ſcilicet malo plus valet Ars noſtra ſalutaris.*'

Med. rational. Syſtemat. *Tom.* 3. *Sect.* 2. *Cap.* 8.

of Musk.---- When it is taken in the Quantities and Manner order'd in the Preſcription mentioned by Dr. *James*, the Sweat it procures is very copious, and ſeldom goes off under thirty or forty Hours; yet, tho' it continues ſo long, it gives not much Fatigue to the Patient, on account of the eaſy Sleep and Spirits which the Medicine gives at the ſame time. In theſe reſpects, the Operation of Musk much reſembles that of *Opium*; but is, in This, much preferable, that it leaves not behind it any *Stupor* or Languidneſs, which the latter often does; ſo that it ſeems rather to approach what is ſaid of *Oleum animale*. Musk, therefore, ſeems likely to anſwer in thoſe low Caſes where Sleep is much wanted, and Opiates are improper.

I always chuſe to give it in a Bolus, if that Form be not diſagreeable to the Patient; becauſe the Perfume in that Way is not near ſo ſtrong as in any other: Indeed when given in a large Quantity, it is rather fetid than fragrant; and I never yet met with any hyſterical Perſon, how averſe ſoever to Perfumes, but could take it in that Form without Inconvenience.

I cannot deny but I have once or twice preſcribed Musk, and not found the uſual Succeſs after repeated Doſes; but this, upon a more exact Scrutiny, I found was owing only to ſome Sophiſtication of that which had been uſed: For, after having tried three or four Doſes from one Shop without Succeſs, upon ſending for the ſame Quantity as had been before order'd, from another Perſon, whoſe Musk I had before experimented, I found the very firſt Doſe anſwer as uſual. ---- Indeed it is much to be lamented, that a Medicine

Medicine of this Conſequence ſhould be ſo liable to Adulterations, and the *Criteria* of its Genuineneſs ſo ill ſettled. It is therefore to be wiſh'd, that ſome Gentleman, who has Skill and Leiſure enough, would oblige the World with an accurate *Analyſis* of it, and ſettle the Characteriſtics of that which is genuine; diſcovering, at the ſame time, the Frauds and Artifices, by which it is adulterated and counterfeited, and a certain Method of detecting them: For, where the Musk is not genuine, all that is hitherto ſaid will prove but of little Service, either to the Patient or Phyſician.

*Worceſter, Oct.* 21. 1744.

J. Wall.

II.

## *A Letter from* Alex. Reid, *Eſq*; *to Dr.* Wilmot, *concerning the Effects of the* Tonquineſe *Medicine.*

*Dear Sir,* *London, Nov.* 5. 1745.

AS your Zeal and Abilities for promoting the Good of Mankind are my principal Inducements, they muſt be my only Apology, for troubling you with the following Account of what I know concerning the internal Uſe of Musk in large Quantities.

About 15 Years ago, I learn'd in *China*, that the *Tonquineſe* had an infallible Cure for the Bite of a mad Dog; and, being very deſirous of poſſeſſing ſo

valuable a *Recipe*, I was, two or three Years after, favoured with it by the late Mr. *Hart*.

They take of the beſt Musk about ſixteen Grains; of the pureſt native Cinnabar, and fineſt Vermilion, each about twenty-four Grains; and, having reduced them ſeparately to impalpable Powders, mix and adminiſter them in about a Gill of Arrack; which, in two or three Hours, generally throws the Patient into a ſound Sleep, and Perſpiration; if not, they repeat the Doſe, and think the Cure certain.

As I had no room to doubt the Fact, I began to conſider attentively the Symptoms of the Diſtemper, and the Nature of the Remedy. The former ſeem'd to proceed immediately from the Irritations of the Nerves by the Acrimony of the Juices; which, being conſtantly and violently hurried about, are, by that Motion, and the Heat attending it, broken, colliquated, and gradually rendered rancid, putrid, corroſive, and even cauſtic: In the mean time, the Nerves, being more and more vellicated by the increaſing Sharpneſs of the Humours, become proportionably more rigid and conſtricted; at once augmenting the Velocity of the Blood, and ſhutting up all the Pores and Paſſages of the natural Excretions and Secretions; while what ſhould, but cannot, paſs off by them, exaſperates the Diſorder, till the Juices become ſo corroſive and cauſtic, as to produce mortal Convulſions.

Believing this Theory to be juſt, ſo far as it goes, I readily concluded, that a Medicine capable of relaxing the nervous Syſtem could not fail of relieving it from the above-mention'd Effects of Irritation, and thereby putting a Stop to Convulſions, opening the conſtricted Paſſages of Nature, moderating the Velocity

city of the Blood, and procuring Sleep; imagining alſo, that, by the ſame ſoothing Quality, the Juices themſelves might, not improbably, be rendered more mild and innocent when impregnated with the Medicine. And ſuch a Medicine I judged Musk to be, on account of its known, and almoſt inſtantaneous, Effects on Perſons of a lax Habit; whoſe Nerves are ſo ſuddenly ſlacken'd, and the Motion of their Blood ſo diminiſhed by the leaſt Smell of it, that many of them faint away: Beſides, its Odour is ſo exceedingly ſubtile, as to penetrate thro' the cloſeſt Subſtances; and may therefore be ſuppoſed eaſily to pervade the minuteſt Veſſels of the human Body, and to diffuſe its ſoftening balſamic Virtue thro' all the Juices thereof.

The Arrack ſeemed alſo a very proper Vehicle for the Musk; not only as they make together a very agreeable Bitter, but alſo becauſe inflammable Spirits reſiſt Putrefaction, and alſo, in ſome meaſure, coagulate animal Juices, which are not already corrupted; by which Effects the too much rarefied Blood is condenſed, and hindered from putrefying further; while the bad Juices, being ſeparated from the ſound, are plentifully thrown off by the Paſſages, which the Musk has relaxed, and opened for them. The native Cinnabar ſeem'd to be ſufficiently recommended by its known Uſes in Phyſic, againſt Acrimony, Obſtructions, and Convulſions: But of the Vermilion I can only ſay, That tho' it be a Preparation of the former, yet, as the *Tonquineſe* ſeem to think its Virtue different, it were to be wiſhed, that we knew their Method of preparing it, in which they certainly excel.

After

After I had long conſidered and examined theſe Principles in my Mind, I ſatisfied myſelf, that they might juſtly be applied to many other Caſes; and that the Medicine would be of eſpecial Service in malignant putrid Fevers, and Convulſions: And having, in the Year 1739. contracted with the Government for the Tranſportation of Convicts, I communicated my Opinion to Mr. *David Roſs*, an ingenious and ſenſible Surgeon, whom I had employed to take care of their Healths; and prevail'd on him to make the Experiment in a very deſperate Caſe; for I did not care to venture on any other. Pleaſe, in the mean time, to obſerve, that, as *Tonquin* Vermilion was not to be had, I ſubſtituted an equal Quantity of factitious Cinnabar in its ſtead, and ſometimes gave Rum or Brandy inſtead of Arrack; in other Things I generally adher'd to the original Preſcription.

## Case I.

In *December* 1739. two Convicts in *Newgate* were at the ſame time very ill of the putrid, infectious, malignant Fever, commonly call'd the *Gaol Diſtemper*. All the uſual Methods of Practice having been tried in vain, their Condition appear'd to be quite deſperate. One of them died in the Evening, and the other was not expected to ſurvive till Morning, being covered with flat petechial Spots, and delirious. Mr. *Roſs* therefore adminiſtred to him the above deſcribed Medicine about 9 or 10 o' Clock at Night; and, next Morning, to his great Surprize, found him quite free from the Fever, eating

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ing Water-gruel, and crying out for Meat, after having ſlept well, and perſpired plentifully. The Spots on his Skin roſe, and the next Day ſcaled off.

## Case II.

Soon after this, a Convict, who had lived in good Credit, laid his Condition ſo much to Heart, and drank ſo freely of ſpirituous Liquors to drown his Care, that he fell into a violent Fever. He was on the Maſter's Side, where his Relations look'd after him; ſo that I heard nothing of his Caſe till it was very deſperate. He was delirious to a high degree, and had Catchings in his Hands and Face. He took the above Medicine at Night, ſlept and perſpired well, and next Morning waked intirely free from his Diſtemper, excepting that he had ſuch a Tremor left in his Hands, that he could not carry a Glaſs to his Head; on which account I ordered him a ſecond Doſe, and he was perfectly cured.

Encouraged by theſe Succeſſes, we adminiſter'd the Medicine to a great many other Tranſports, who had the *Gaol Diſtemper*; and generally found it to have the ſame ſalutary Effects; more eſpecially where the Patients were delirious or convulſed; as can be atteſted by Mr. *Louttil*, Apothecary, who made up the Medicines for my Surgeons; and was himſelf a Witneſs of ſeveral ſurpriſing Cures perform'd by it. Nor did I ever hear of any bad Effects from it.

## Case III.

Mr. *Roſs*, the Surgeon above-mentioned, having caught the *Gaol Diſtemper*, by attending thoſe who were ſick of it on board, came aſhore at *Graveſend*, and deſired me to provide another Surgeon; for that he was ſo ill he could not go the Voyage. He was blooded, and took 16 Grains of Musk in a Glaſs of Rum, without the Cinnabars, which were not to be had aſhore, nor eaſily to be fetch'd from on board. This was at Night; he ſlept, perſpir'd, and waked about 10 in the Morning ſo well, that he went on board directly, and continued his Voyage.

## Case IV.

Encouraged by many Inſtances of the firſt Caſe, I ventured, about three Years ago, to give half the *Tonquin* Doſe (but without the Spirits) to my own Child, then about three Years old, who was ſeized with the Small-Pox and Convulſions. She ſlept ſound, and perſpired plentifully after it: The Small-Pox roſe kindly, and ſhe did very well, having never had a ſingle Fit of Convulſion ſince, though extremely ſubject to frequent and dangerous ones before.

## Case V.

About two Years ago, Mr. *Roſs* gave much the ſame Doſe to my Servant's Child, who was then about eight Months old, and had Catchings in her Hands, occaſion'd by a violent Teeth-Fever. She ſlept, perſpired, and waked perfectly well.

Case

## Case VI.

About the ſame time, Mr. *Gordon*, a Clergyman, who lived near *Greenwich*, having come from thence to *London* with a Fever upon him, became quite delirious, if he was not ſo before he ſet out. Mr. *Roſs* gave him the *Tonquin* Remedy, which made him ſleep and perſpire, ſo that by next Morning he was perfectly cured.

## Case VII.

A Lady of my Acquaintance, being very ſubject to violent hyſterical Convulſions, was ſeized with a Fit, as I ſat at Supper with her about three Years ago, by which every Part of her Body was terribly agitated. Happening to have in my Pocket a Bolus made of the Musk and Cinnabars, I bruiſed it in the Palm of my Hand, and clapp'd it to her Noſe, which ſuddenly relieved her. I left it with her, and ſhe has ſince told me, that ſhe never goes abroad, nor to Bed, without it.

## Case VIII.

Obſerving the Efficacy of this Medicine in curing *Deliriums*, I conceived that it would be of Uſe againſt Maniacal Diſtempers; and happened, about two Half-years ago, to ſay ſo, in the Preſence of a Gentleman of *Oxford*, whoſe Son had been, for ſome time, exceedingly diſordered in his Senſes, by a Diſappointment in Love; being unable to ſleep, refuſing Suſtenance, and attempting to throw himſelf out of the Windows of a high Room where

he was confin'd. The Father begg'd me to give him the *Recipe*, and aſſured me he would make uſe of it, as the Methods formerly tried had proved unſucceſsful. He ſoon returned me a Letter of Thanks, acquainting me, That the Medicine had made his Son ſleep ſound for 23 Hours, that he had perſpired plentifully, and waked in his Senſes. I have ſince heard, that he continues well, and, from a Skeleton, is grown fat.

## CASE IX.

A particular Friend of mine went mad about a Year and half ago, by too intenſe Thinking. I mention'd the preceding Caſe to Dr. *Armſtrong* and Mr. *Ferguſon*, who attended him; and, with their Approbation, gave him Musk, native and factitious Cinnabar, of each a Scruple, in about a Gill of Arrack. In about three Hours, he fell, or ſeem'd to fall, aſleep; upon which, ſuppoſing the Medicine had taken Effect, we left him: But, ſoon after we were gone, he waked; and, next Day, ſeeming very little, if at all, better, was removed to a private Mad-houſe. There nothing elſe was done to him; but at Night he ſlept tolerably well, appeared much better next Day, and continued mending, till he was in a little time quite well, as he is now. How much of this Cure may be attributed to the Medicine I do not know, as it did not operate immediately, nor in the uſual Manner. I mention it chiefly to ſhew, that even twenty Grains of Musk had no *bad* Effect upon him, if they had not a *good* one.

## Case X.

Not long after, Mr. *Louttit* and I gave the ſame Doſe to a Gentlewoman, whoſe Brain had long been turn'd by religious Terrors, which firſt affected her about the Time that her *Menſes* ceaſed. I was, at firſt, ſurpriſed to find her ſuddenly become quite gentle, obliging, and reaſonable; but theſe good Effects, as ſhe ſlept but little, went off next Day, and ſhe ſoon appeared neither better nor worſe than ſhe was before; and in the ſame Condition ſhe ſtill continues: So that neither in this Caſe did the large Doſe of Musk do any Miſchief.

Theſe, Sir, are ſome of the many Experiments made with the above recited Preſcription by myſelf, and the Surgeons under my Direction. You may depend on the Facts as near as I can recollect them; and if you deſire to be further ſatisfied, Mr. *Louttit*, my Apothecary, and Mr. *Mackenzie*, one of my Surgeons, now in Town, ſhall wait upon you. Give me Leave only to obſerve, that, where I thought the Caſe required it, I have given as far as 24 Grains of Musk to Convicts, and never found any ill Effects from it, tho', on ſome Occaſions, it diſappointed my Hopes. Whether there was any Error in altering the *Tonquineſe* Proportions, the Cauſe of which I cannot recollect, or whether the Medicine would have ſucceeded in the Inſtances where it miſcarried, had the original Preſcription been kept to, and repeated as directed, I leave to your Judgment and Experience.

But I cannot help asking your Opinion and begging you to conſider, Whether, upon the Whole, the Virtues of this Medicine may not reaſonably be thought to extend to many other Caſes; and particularly to the Epilepſy and Plague. But, whatever Judgment you may form of the Medicine which common Good-will to my Fellow-creatures obliges me to recommend to your Thoughts, I intreat, and hope, you will pardon my Preſumption in going ſo far beyond my own Province; ſeeing I ſhall always be, with the higheſt Eſteem, and ſincereſt Reſpect,

*Dear Sir,*

*Your moſt obliged, and*

*and moſt obedient Servant,*

Andr. Reid.

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## XIX. De Planta minus cognita, & hactenus non deſcripta, Commentarius: Auctore *Gulielmo Watſon*, Regiæ Soietatis Sodale.

### GEASTER Volvæ Radiis & Operculo elevatis.

*Read in* Engliſh Dec. 20. 1744. *here printed with Alterations.*

*GEASTER* appellatur plantarum genus a *Michelio* conſtructum; cujus quinque ſpecies accuratiſſimus idem auctor detexit, atque in tractatu ſuo de novis plantarum generibus